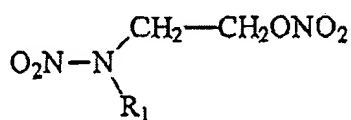


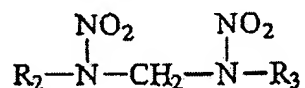
IN THE CLAIMS:

Claims 1-13 (canceled).

14. (Original Claim) A functional highly energetic material with layered grain structure, formed with a high-energy plasticizer introduced into a green powder and a polymeric deterrent, characterized in that the high-energy plasticizer has the structure I or II, with $R_1 = C_1-C_{10}$ -alkyl, C_1-C_{10} -alkoxy or aryl, R_2 and R_3 independent of each other have C_1-C_5 -alkyl or C_1-C_5 alkoxy and is used in amounts of 5-20% relative to the green powder.

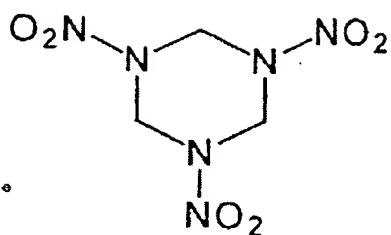


(I)

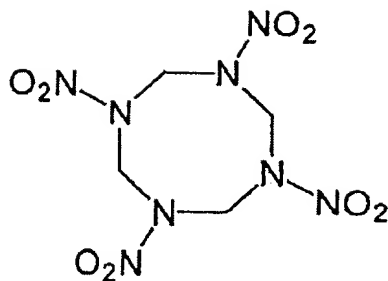


(II)

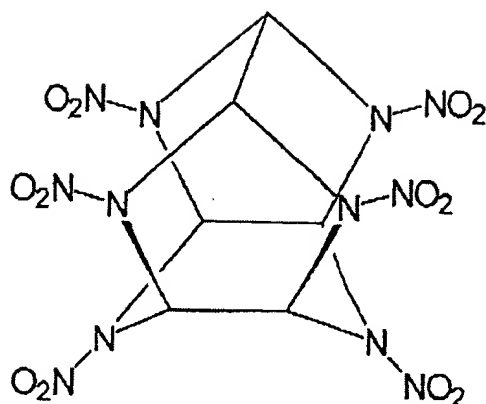
15. (Original Claim) A functional, high-energetic material according to claim 14, characterized in that the green powder is produced by extruding a solvent-containing powder dough of nitrocellulose, wherein the solvent-containing powder dough contains substances with the structures IV, V, VI, which form a total share of 10-60% of the dry substance for the powder dough.



(IV)

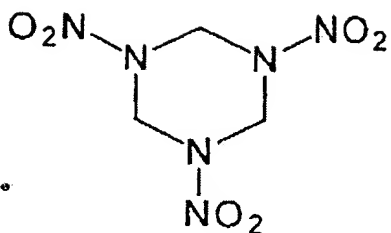


(V)

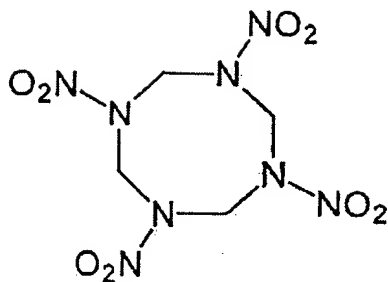


(VI)

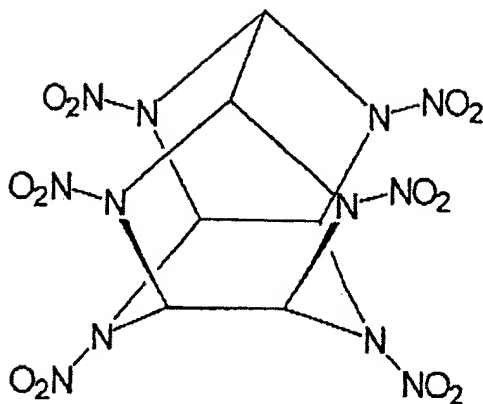
16. (Original Claim) A green grain for producing a functional high-energetic material with layered grain structure, containing a high-energy plasticizer and a polymeric deterrent, wherein the green grain is formed by extruding a solvent-containing powder dough of nitrocellulose, characterized in that the solvent containing powder dough contains substances with the structure IV, V or VI that form a total share of 10-60 % of the dry substance of the powder dough.



(IV)



(V)



(VI)

17. (Original Claim) A propellant containing a high-energetic functional material in accordance with claim 14.

18. (Original Claim) Ammunition with a propellant powder according to claim 17.

19. (Presently Amended) A method for producing a functional, high-energetic material having a layered grain structure and containing an energetic plasticizing agent and a polymeric desensitizing agent, comprising the steps of:

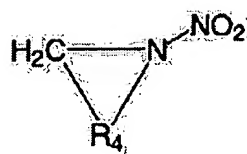
- a) providing an energetic plasticizing agent in the form of a solution or in the form of an emulsion comprising water;
- b) providing a polymeric desensitizing agent in the form of a solution or in the form of an emulsion comprising water;
- c) providing a receptive grain;
- d) diffusing at least one emulsion comprising of said energetic plasticizing agent or said polymeric desensitizing agent into the receptive grain to produce the layered grain structure.

20. (Previously Added) A method according to claim 19, wherein the receptive grain comprises at least 80% nitrocellulose with a nitrogen content of 11-13.5%.

21. (Previously Added) A method according to claim 19, wherein the receptive grain has a cylindrical structure with a diameter to length ratio of between 0.5 and 2.0, an outside diameter between 0.5 and 10 mm and contains at least one hole.

22. (Previously Added) A method according to claim 21, wherein said at least one hole has a hole diameter between 0.03 and 0.7 mm.

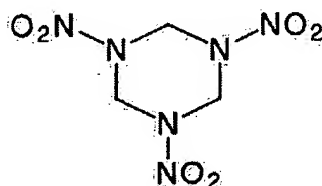
23. (Previously Added) A method according to claim 19, which further comprises producing the receptive grain by compressing a solvent-containing powder dough of nitrocellulose in a molding press or by extruding it, wherein the solvent-containing powder dough contains at least one substance with the general structure



(III)

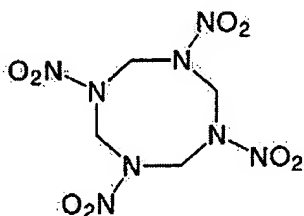
wherein $R_4 = (-CH_2-N-NO_2)_n$ and $n = 2$ or 3 , wherein said at least one substance is present in an amount of 5-80% based on a dry weight of the powder dough.

24. (Previously Added) A method according to claim 23, wherein said at least one substance has a structure selected from the group consisting IV, V and VI, wherein IV is



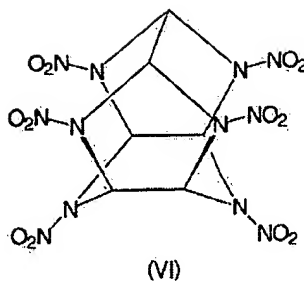
(IV)

wherein V is



(V)

and wherein VI is



and wherein the said at least one substance is present in the absorbent grain in an amount which is between 10-60%.

25. (Previously Added) A method according to claim 19, wherein a diffusion depth of at least one of said energetic plasticizing agent or said polymeric desensitizing agent in the receptive grain is in the range of 100-500 μm .

26. (Previously Added) A method according to claim 19, further comprising the steps of:

- a) adding the high-energy plasticizing agent in an organic solvent to a mixture of receptive grains in water;
- b) admixing the desensitizing agent in water.

27. (Previously Added) A method according to claim 26, wherein the adding of the high-energy plasticizing agent and the admixing of the desensitizing agent in water is undertaken at a temperature between 20-85°C.

28. (Previously Added) A method according to claim 27, further comprising

- a) pre-soaking receptive grains in an organic solvent in a reactor;
- b) stirring during a period of 4-24 hours at a temperature of 20-85°C prior to adding the solution or emulsion of high-energy plasticizing agent, which is liquid at room temperature.

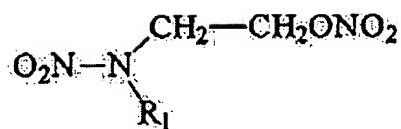
29. (Previously Added) A method according to claim 26, wherein the receptive grains are placed into 1 to 5 times the amount by weight of water.

30. (Previously Added) A method according to claim 26, which is conducted in a reactor tank, wherein after the step of admixing the desensitizing agent,

- a) the pressure in the reactor tank is reduced to 400-800 mbar during a period of 2-6 hours to allow liquid components to drain out through a strainer in a bottom of the reactor tank and
- b) a resulting powder mass is dried with warm air.

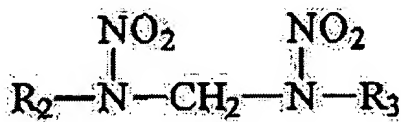
31. (Presently Added) A method according to claim 30, wherein, after drying the resulting powder mass, 0.01-2% graphite is added in a polishing drum to the powder mass to obtain a bulk propellant powder with a bulk density > 1000 g/l.

32. (Previously Added) A method according to claim 19, wherein the high-energy plasticizing agent is selected from the group consisting of nitroglycerine, diethylene glycol dinitrate, a substance with the structure



(I)

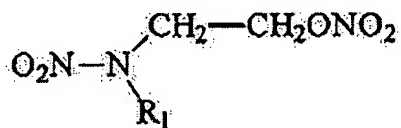
and a substance with the structure



(II)

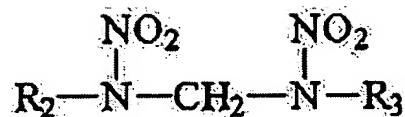
wherein $\text{R}_1 = \text{C}_1\text{-C}_{10}\text{-alkyl}$, $\text{C}_1\text{-C}_{10}\text{-alkoxy}$ or aryl, R_2 and R_3 independent of each other $\text{C}_1\text{-C}_5\text{-alkyl}$ or $\text{C}_1\text{-C}_5\text{-alkoxy}$ and wherein the energizing plasticizing agent is used in amounts of 5-20% relative to the receptive grains.

33. (Previously Added) A method according to claim 32, characterized in that the high-energy plasticizing agent is selected from the group consisting of the structure.



(I)

and



(II)

with R₁ = C₁-C₄ alkyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, or t-butyl, and with R₂ and R₃ independent of each other being C₁-C₂ (alkyl).

34. (Previously Added) A method according to claim 1, characterized in that the polymeric desensitizing agent is an organic ether or ester compound with a molecular weight of between 100-100,000.

35. (Previously Added) The method of Claim 33, wherein each of R₂ and R₃ is independently methyl or ethyl.

36. (Previously Added) The method of Claim 33, wherein R₁ is alkyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, or t-butyl.

37. (Presently Added) The method of Claim 35 wherein R₁ is alkyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, or t-butyl.--
